

PCTWORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

UV-61

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : H04N 5 /445	A1	(11) International Publication Number: WO 99/56473 (43) International Publication Date: 4 November 1999 (04.11.99)
(21) International Application Number: PCT/US99/08842 (22) International Filing Date: 22 April 1999 (22.04.99) (30) Priority Data: 09/070.555 30 April 1998 (30.04.98) US (71) Applicant: UNITED VIDEO PROPERTIES, INC. [US/US]; 7140 South Lewis Avenue, Tulsa, OK 74136 (US). (72) Inventors: KNUDSON, Edward, B.; 11055 West Rowland Avenue, Littleton, CO 80127 (US). HASSELL, Joel, G.; 8246 Yarrow Court, Arvada, CO 80005 (US). MARSHALL, Connie, T.; 2991 South Woodland Road, Muskogee, OK 74401 (US). LEMMONS, Thomas, R.; Route 2, Box 1178, Sand Springs, OK 74063 (US). REYNOLDS, Steven, J.; 812 Altair Drive, Littleton, CO 80124 (US). KNEE, Robert, A.; 747 Grissom Drive, Lansdale, PA 19446 (US). CARPENTER, Kenneth, F., Jr.; 544 South Brentwood Drive, Mount Laurel, NJ 08054 (US). THOMAS, William, L.; 11611 South 70th East Avenue, Bixby, OK 74008 (US). HERRINGTON, W., Benjamin; 725 West 20th Street, Tulsa, OK 74107 (US). WILLIAMSON, Steven, C.; 2720 South Elder Avenue, Broken Arrow, OK 74012 (US). ELLIS, Michael, D.; 1300 Kingwood Place, Boulder, CO		80304 (US). ALLISON, Donald, W.; 3411 South 132th East Avenue, Tulsa, OK 74134 (US). (74) Agents: TREYZ, G., Victor et al.; Fish & Neave, 1251 Avenue of the Americas, New York, NY 10020 (US). (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: PROGRAM GUIDE SYSTEM WITH FLIP AND BROWSE ADVERTISEMENTS		
(57) Abstract An interactive television program guide is provided in which advertisements may be displayed in program listings display regions on program guide screens. The program listings display regions may be browse displays or flip displays. The program guide screens contain video for the current channel to which the user is tuned. The program listings display regions containing the advertisements may be overlaid on top of the current channel. Alternatively, the video for the current channel may be provided in a reduced-size video window. The advertisements may contain video. The advertisements may be used to promote television programs and conventional goods and services. Advertisements may be selectable. When a user selects an advertisement, the program guide provides the user with an opportunity to order products or services, request information, set reminders for upcoming programs, view program descriptions, record programs, or take other such actions.		

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece			TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	NZ	New Zealand		
CM	Cameroon			PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

- 1 -

PROGRAM GUIDE SYSTEM WITH
FLIP AND BROWSE ADVERTISEMENTS

Background of the Invention

This invention relates to interactive
5 television program guides, and more particularly, to
techniques for presenting advertising to users of such
television program guides.

Cable, satellite, and broadcast television
systems provide viewers with a large number of
10 television channels. Viewers have traditionally
consulted printed television program schedules to
determine the programs being broadcast at a particular
time. More recently, interactive electronic television
program guides have been developed that allow
15 television program information to be displayed on a
viewer's television.

Interactive program guides are typically
implemented on set-top boxes. Such program guides
allow users to view television program listings in
20 different display formats. For example, a user may
instruct the program guide to display a grid of program
listings organized in a channel-ordered or a time-

- 2 -

ordered list. Users may also search and sort program listings by theme (e.g., movies, sports, etc.) or by title (i.e., alphabetically). A user may obtain additional information for a program by placing a
5 highlight region on a desired program listing and pressing an "info" key. The user may purchase a pay program from the program guide or may set a reminder for a future program by placing the highlight region on a program listing and pressing an "OK" key. Some
10 systems allow the user to select a program for recording by placing the highlight region on a program listing and pressing a "record" key.

Program guides with a browse or flip display are capable of generating an overlay containing program
15 listings information for a single channel. Browse displays contain information on programs available on channels other than the channel to which the user is currently tuned. The user may browse through program listings for other channels and other times using
20 cursor keys, without changing the current channel. Flip displays contain information for the current channel. When the flip display is activated, using the up or down channel keys causes the both the current channel to change and the flip display to be updated
25 accordingly.

Although flip and browse displays are useful, it would be desirable if more information were available to the user of such displays. For example, it would be desirable if advertisements were available
30 in flip and browse displays to provide the users of such displays with additional information.

- 3 -

It is therefore an object of the present invention to provide an interactive television program guide system that provides advertising on flip and browse displays.

5 It is also an object of the invention to provide an interactive television program guide system with special effects for removing such flip and browse displays from the user's television screen.

Summary of the Invention

10 These and other objects of the invention are accomplished in accordance with the principles of the present invention by providing a system having an interactive television program guide that provides video (including audio) for the current channel and a
15 program listings display region containing a program listing for a single channel and an advertisement. The program listings display region may be either a browse display in which the channel or time for the program listing may be different than the current channel or
20 time or a flip display in which the channel for the program listing and the current channel are the same.

A browse display may be provided in which a user may change the channel for the program listing by navigating a highlight to an advertisement adjacent to
25 the program listing with a cursor key and by activating that cursor key again after the advertisement has been highlighted.

The advertisement may be selectable. When the user selects the advertisement, the program guide
30 may take an appropriate action. If the advertisement is related to programming, selecting the advertisement

- 4 -

may direct the program guide to perform a programming related task such as setting a reminder for a program, tuning to a program, recording a program, ordering a pay-per-view program, etc. If the advertisement is a
5 conventional advertisement, selecting the advertisement may direct the program guide to assist in the ordering of a product or service, to process an inquiry for additional information, to display additional information, etc.

10 Multiple advertisements may be provided within the program listings display region. Advertisements may contain text, graphics, and video.

The program listings display region may be removed by the program guide using a special effect
15 such as a wipe, a dissolve, a fade, etc.

Further features of the invention, its nature and various advantages will be more apparent from the accompanying drawings and the following detailed description of the preferred embodiments.

20 Brief Description of the Drawings

FIG. 1 is a diagram of a system in which an interactive television program guide is implemented in accordance with the present invention.

FIG. 2 is a diagram of a system similar to
25 the system of FIG. 1 showing how servers may be located at network nodes in accordance with the present invention.

FIG. 3 is a simplified plan view of an illustrative remote control in accordance with the
30 present invention.

- 5 -

FIG. 4 is a diagram illustrating the operation of conventional browse displays.

FIG. 5 is a diagram illustrating the operation of conventional flip displays.

5 FIG. 6 is a diagram of an illustrative browse display containing an advertisement in accordance with the present invention.

FIG. 7 is a diagram of another illustrative browse display containing an advertisement in
10 accordance with the present invention.

FIG. 8 is a diagram illustrating how a browse display containing an advertisement may be provided with a highlight that may be navigated to the advertisement in accordance with the present invention.

15 FIG. 9 is a diagram of an illustrative flip display containing an advertisement in accordance with the present invention.

FIG. 10 is a diagram illustrating how a browse or flip display may be removed from the user's
20 television screen using a special effect.

FIG. 11 is a flow chart illustrating steps involved in providing flip and browse displays and in removing such displays from the user's television screen using special effects.

25 FIG. 12 is a diagram of another illustrative flip or browse display in accordance with the present invention.

FIG. 13 is a diagram of an illustrative advertisement in accordance with the present invention.

30 FIG. 14 is a flow chart of steps involved in providing a selectable advertisement and taking suitable actions in the program guide in response to

- 6 -

selection of the advertisement by a user in accordance with the present invention.

Detailed Description of the Preferred Embodiments

An illustrative program guide system 30 in accordance with the present invention is shown in FIG. 1. Main facility 32 contains a program guide database 34 for storing program guide information such as television program guide listings data, pay-per-view ordering information, television program promotional information, etc. Main facility 32 also contains an advertising database 36 for storing advertising information. Information from databases 34 and 36 may be transmitted to television distribution facility 38 via communications link 40. Link 40 may be a satellite link, a telephone network link, a cable or fiber optic link, a microwave link, a combination of such links, or any other suitable communications path. If it is desired to transmit video signals (e.g., for advertising and promotional videos) over link 40 in addition to data signals, a relatively high bandwidth link such as a satellite link is generally preferable to a relatively low bandwidth link such as a telephone line.

Television distribution facility 38 is a facility for distributing television signals to users, such as a cable system headed, a broadcast distribution facility, or a satellite television distribution facility.

The program guide information transmitted by main facility 32 to television distribution facility 38 includes television program listings data such as

- 7 -

program times, channels, titles, descriptions, etc.
Transmitted program information also includes pay
program data such as pricing information for individual
programs and subscription channels, time windows for
5 ordering programs and channels, telephone numbers for
placing orders that cannot be impulse ordered, etc.
The advertising information transmitted by main
facility 32 to television distribution facility 38
includes text, graphics, and video advertisements for
10 various products and services. If desired, some of the
program guide and advertising information may be
provided using data sources at facilities other than
main facility 32. For example, data related to pay
program order processing (e.g., billing data and the
15 like) may be generated by an order processing and
billing system that is separate from main facility 32
and separate from television distribution facility 38.
Similarly, advertising information may be generated by
an advertising facility that is separate from main
20 facility 32 and television distribution facility 38.

Regardless of its source, advertising
information may be maintained on a server 42 within
television distribution facility 38 if desired. Server
42 may be capable of handling text, graphics, and
25 video.

Television distribution facility 38
distributes program guide and advertising information
to the user television equipment 44 of multiple users
via communications paths 46. User television equipment
30 may be any suitable equipment for providing television
to the user that contains sufficient processing
capabilities to implement an interactive television

- 8 -

program guide. Paths 46 may be cable links, fiber optic links, satellite links, broadcast links, or other suitable link or combination of such links. Any suitable communications scheme may be used to transmit data over paths 46, including in-band transmissions, out-of-band transmissions, digital transmissions, analog transmissions, cable transmissions, satellite transmissions, over-the-air transmissions, multichannel multipoint distribution services (MMDS) transmissions, etc.

If desired, program guide data may be distributed over an out-of-band channel on paths 46 or over an in-band path such as the vertical blanking interval (VBI). Advertising information may be distributed using any of a number of suitable techniques. For example, text and graphics advertisements may be distributed over an out-of-band channel using an out-of-band modulator. Video advertisements may also be distributed in this way, although large quantities of video information may be more efficiently distributed using one or more digital channels on path 46. Such digital channels may also be used for distributing text and graphics.

Each user has a receiver, which is typically a set-top box such as set-top box 48, but which may be other suitable television equipment such as an advanced television receiver into which circuitry similar to set-top-box circuitry has been integrated or a personal computer television (PC/TV). Program guide data is distributed to set-top boxes 48 periodically. Television distribution facility 38 may also poll set-top boxes 48 periodically for certain information

- 9 -

(e.g., pay program account information or information regarding programs that have been purchased and viewed using locally-generated authorization techniques).

Main facility 32 preferably contains a processor to
5 handle information distribution tasks. Each set-top
box 48 preferably contains a processor to handle tasks
associated with implementing a program guide
application on the set-top box 48. Television
distribution facility 38 may contain a processor for
10 handling tasks associated with the distribution of
program guide and advertising information.

Each set-top box 48 is typically connected to
an optional videocassette recorder 50 so that selected
television programs may be recorded. Each
15 videocassette recorder 50 is connected to a television
52. To record a program, set-top box 48 tunes to a
particular channel and sends control signals to
videocassette recorder 50 (e.g., using infrared
transmitter 43) that direct videocassette recorder 50
20 to start and stop recording at the appropriate times.

During use of the interactive television
program guide implemented on set-top box 48, television
program listings may be displayed on television 52.
Each set-top box 48, videocassette recorder 50, and
25 television 52 may be controlled by one or more remote
controls 54 or any other suitable user input interface
such as a wireless keyboard, mouse, trackball,
dedicated set of keys, etc.

Communications paths 46 preferably have
30 sufficient bandwidth to allow television distribution
facility 38 to distribute scheduled television
programming, pay programming, advertising and other

- 10 -

promotional videos, and other video information to set-top boxes 44 in addition to non-video program guide and advertising data. Multiple television and audio channels (analog, digital, or both analog and digital) may be provided to set-top boxes 48 via communications paths 46. If desired, program listings and advertising information may be distributed by one or more distribution facilities that are similar to but separate from television distribution facility 38 using communications paths that are separate from communications paths 46.

Certain functions such as pay program purchasing may require set-top boxes 48 to transmit data to television distribution facility 38 over communications paths 46. If desired, such data may be transmitted over telephone lines or other separate communications paths. If functions such as these are provided using facilities separate from television distribution facility 38, some of the communications involving set-top boxes 48 may be made directly with the separate facilities.

Users may interactively order additional information, products, or services. Such orders may be satisfied by fulfillment facilities 49 and 51. If desired, orders may be transmitted directly to fulfillment facilities such as fulfillment facility 51 via links 53, which may be telephone links, the Internet, or other suitable communications links. Orders may also be transmitted to television distribution facility 38 via links 46, where the billing system of the television distribution facility may be used. After the television distribution

- 11 -

facility 38 has processed the user's order, television distribution facility 38 may transmit the order to fulfillment facility 49 via link 55.

A number of suitable techniques may be used
5 to distribute videos related to advertising. For example, if each path 46 includes a number of traditional analog television channels, one or more of these channels may be used to support a number of digital channels. The bandwidth of each analog channel
10 that is used to support digital channels may support ten or more of such digital channels. If desired, videos may be provided from server 42 in a continuously looped arrangement on these digital channels. Information provided to set-top box 48 may then be used
15 to determine which digital channels to tune to when it is time to display a desired video. Alternatively, videos may be provided on demand. With this approach, set-top box 48 and server 42 may negotiate to determine a channel on which to provide the desired video.
20 Videos that originate from main facility 32 or a separate facility are preferably distributed to user television equipment 44 using these or other suitable techniques.

As shown in FIG. 2, the capabilities of
25 server 42 may be provided using servers 56 located at network nodes 58. Servers such as servers 56 may be used instead of server 42 or may be used in conjunction with a server 42 located at the television distribution facility.

30 Graphics information for advertisements may be downloaded periodically (e.g., once per day) to set-top boxes 48 of FIG. 1 and stored locally. The

- 12 -

graphics information may be accessed locally when needed by the program guide implemented on set-top box 48. Alternatively, graphics information may be provided in a continuously-looped arrangement on one or more digital channels on paths 46. With such a continuously-looped arrangement, a map indicating the location of the latest graphics information is preferably downloaded periodically to set-top boxes 48 (e.g., once per day). This allows the content on the digital channels to be updated. The program guides on set-top boxes 48 may use the map to locate desired graphics information on the digital channels. Another approach involves using a server such as server 42 or servers 56 (FIG. 2) to provide the graphics information after a set-top box 48 and that server have negotiated to set up a download operation. A bitmap or other suitable set of graphics information may then be downloaded from the server to the set-top box. If desired, the server may download instructions informing the set-top box where the desired graphics information can be located on a particular digital channel. The graphics information can be updated periodically if the server that is responsible for downloading the instructions for informing the set-top box of the location of the graphics information is also updated periodically.

Text information for advertisements may be provided to set-top boxes 48 using the same paths that are used for distributing program guide data. For example, advertising data from database 36 of FIG. 1 may be provided to set-top boxes 48 using link 40, television distribution facility 38, and paths 46. The

- 13 -

text information may be stored locally in set-top boxes 48 and updated periodically (e.g., once per day).

Text information, graphics information, and videos for advertisements may also be distributed using a combination of these techniques or any other suitable technique.

If desired, advertising related information (whether video, graphics, text, or a combination of video, graphics, and text) may be presented to the user based on the user's interests, as determined by the user's interactions with the program guide. This is described in Knudson et al. U.S. patent application Serial No. 09/034,939, filed March 4, 1998, which is hereby incorporated by reference herein in its entirety.

A suitable remote control 60 that may be used to operate the program guide implemented on user television equipment 44 is shown in FIG. 3. Remote control 60 has cursor keys 62, a select or "OK" key 64, channel up and down keys 66. Remote control 60 also has various other keys for controlling the program guide and user television equipment that are not shown to avoid over-complicating the drawings.

A conventional program guide browse display arrangement is shown in FIG. 4. Video for the current channel to which the user's set-top box is tuned (i.e., the current channel that the user is viewing) is displayed on the user's television screen 68. When the user presses a remote control cursor key, browse display 70 is provided as an overlay on top of screen 68. Initially, browse display 70 contains program listings information for the current channel and time

- 14 -

(e.g., channel 6 and 10:30 AM), as shown on the upper screen in FIG. 4. If the user presses a cursor key, the video for the current channel that is displayed on screen 68 is not changed, but the program listings information in browse display 70 is changed to the next available channel (e.g., channel 7), as shown on the lower screen in FIG. 4. As indicated by arrows 72, the user may use cursor keys to browse program listing for various other channels and times without disturbing the video for the current channel that is displayed on screen 68. If the user locates a currently airing program of interest, the user may press a remote control "OK" key that directs the program guide to tune to the channel for that program. Pressing the "OK" key when the program listing in the browse display is a future program directs the program guide to provide an opportunity to set a reminder for that program.

A conventional flip display arrangement is shown in FIG. 5. Video for the current channel to which the user is tuned is displayed on screen 74. When the user presses a remote control channel up or down key, flip display 76 is provided as an overlay on top of screen 74. As shown on the upper screen in FIG. 5, flip display 76 contains program listings information for the current channel (e.g., channel 6). If the user presses a channel up or down key, the video for the current channel that is displayed on screen 74 is changed to the next available channel (e.g., channel 7) and the program listings information in flip display 76 is also changed to the next available channel (e.g., channel 7), as shown on the lower screen in FIG. 4.

- 15 -

As shown in FIGS. 4 and 5, in one mode (browse mode) the program guide provides a program listings overlay (the browse display) that is allowed to go out of synchronization with the current channel, whereas in another mode (flip mode) the program guide provides a program listings overlay (the flip display) in which the current channel and the program listings information in the overlay remain in synchronization. The user may operate the program guide in either browse mode or flip mode by using the appropriate remote control keys (e.g., cursor keys for browse mode and channel up and down keys for flip mode).

In accordance with the present invention, the program guide provides browse and flip displays that contain advertisements. An illustrative browse display that may be provided by the program guide is shown in FIG. 6. Video for the current channel to which the user (i.e., set-top box 48 of FIG. 1) is tuned is displayed on screen 78. When the user presses a suitable key such as a remote control cursor key 62 (FIG. 3), the program guide implemented on user television equipment 44 of FIG. 1 provides browse display 80 as an overlay on top of screen 78 (which may be, e.g., the screen of television 52 of FIG. 1). Browse display 80 contains advertisement 82 and may contain a logo 83. Advertisement 82 may contain text, graphics (including animation), and video. Advertisement 82 may be a programming-related advertisement that is used to promote a television program or channel or may be a conventional advertisement used to promote non-programming products and services. If desired, advertisement 82 may be

- 16 -

selectable by the user (e.g., using remote control keys). If advertisement 82 is selectable, the program guide may take various actions upon selection of advertisement 82 by the user. The content of
5 advertisement 82 may be cycled (i.e., replaced periodically by another advertisement). A fade may be provided between advertisements as they are cycled.

When browse display 80 is initially invoked by the user by pressing a cursor key 62, browse display
10 80 contains program listing 84 for the current channel (e.g., channel 6) and time, as shown on the upper screen in FIG. 6. If the user presses a cursor key 62, the video for the current channel that is displayed on screen 78 is not changed, but the program listing 84 in
15 browse display 80 is changed to the next available channel (e.g., channel 7), as shown on the lower screen in FIG. 6. As indicated by arrows 86, the user may use cursor keys to browse program listing for various other channels without disturbing the video for the current
20 channel that is displayed on screen 78. If the user locates a program of interest with browse display 80, the user may press "OK" key 64 to direct the program guide to tune to the channel for that program.

As shown in FIG. 7, the program guide may
25 provide a browse display 88 that allows the user to browse program listings for programs that are scheduled to be aired at times other than the current time. Arrow keys 90 indicate that the user may use left and right cursor keys 62 to direct the program guide to
30 display program listings information 92 for different times. Pressing the "OK" key 64 when the program in browse display 88 is a future program may direct the

- 17 -

program guide to provide an opportunity to set a reminder for the program or to schedule a recording of the program. As with the arrangement of FIG. 6, browse display 88 of FIG. 7 contains an advertisement 94.

5 If advertisements such as advertisements 82 and 94 are selectable, the browse display may be provided with a movable highlight as shown in FIG. 8. When browse display 104 of FIG. 8 is initially overlaid on screen 106 (e.g., when the user first presses a
10 cursor key 64), the program guide provides a highlight 108 positioned on program listing 110, as shown in the upper screen of FIG. 8. If the user presses an up cursor key 62, program listing 110 is changed to the program listing for the next available channel and
15 highlight 108 remains positioned on the listing. If the user presses a down cursor key 62, program listing 110 is not changed. However, highlight 108 is positioned on advertisement 112, as shown in the center screen of FIG. 8. Further activation of the down
20 cursor key 62 directs the program guide to replace the existing program listing 110 (e.g., the program listing for channel 2) with the program listing for the previous channel (e.g., the program listing for channel 1), as shown in the lower screen of FIG. 8. When the
25 browse display is as shown in the lower screen of FIG. 8, further activation of the down cursor key 62 scrolls the program listings further, but does not move highlight 108. Activation of the up cursor key 62 when the browse display is as shown in the lower screen of
30 FIG. 8 moves highlight 108 back to program listing 110, without changing the channel for the program listing 110.

- 18 -

Another way in which the program guide may allow the user to select advertisements such as advertisements 82 and 94 is to provide a special remote control button. Left and right cursor keys may be used to access advertisements (e.g., panel advertisements to the left or right of the program listing) if desired.

A program guide flip display 96 containing an advertisement 98 is shown in FIG. 9. Video for the current channel to which the user (i.e., set-top box 48) is tuned is displayed on screen 100. When the user presses a suitable key such as a channel up or down key 66 (FIG. 3), flip display 96 is provided as an overlay on top of screen 100. As shown on the upper screen in FIG. 9, flip display 96 contains a program listing 102 for the current channel (e.g., channel 6). If the user presses a channel up or down key 66, the video for the current channel that is displayed on screen 100 is changed to the next available channel (e.g., channel 7) and the program listing 102 in flip display 96 is changed to the next available channel (e.g., channel 7), as shown on the lower screen in FIG. 9.

Another aspect of the invention involves removing program listings displays such as browse and flip displays from the screen. Browse displays may be removed after a period of inactivity (e.g., 5 minutes) that indicates that the user is no longer interested in browsing the program listings. The flip display (which may appear automatically whenever the user changes channels with the channel keys) may be removed after a shorter period of time (e.g., 5 seconds).

The program guide may remove program listings displays such as browse and flip displays from the

- 19 -

screen using special effects. One such special effect (a vertical glide) is illustrated in FIG. 10. A full-size browse or flip display 114 is shown overlaid on the upper screen 116 of FIG. 10. After a suitable time
5 period (e.g., after 5 minutes if display 114 is a browse display or after 5 seconds if display 114 is a flip display), the program guide smoothly glides display 114 off of screen 116, as shown in the center and lower screens 116 of FIG. 10.

10 The glide effect shown in FIG. 10 is only one illustrative special effect that may be used to remove program listings displays from the screen. Any suitable special effect may be used to remove such displays. Examples of suitable special effects include
15 glides, dissolves, collapses, bounces, explosions, etc.

Steps involved in using such special effects to remove a program listings display from the screen are shown in FIG. 11. At step 118, the program guide provides the user with an opportunity to select a
20 desired special effect for the program guide to use in removing program listings. The user may make this selection from a suitable setup menu in the program guide. The user is also provided with an opportunity to deselect or otherwise cancel the use of these
25 special effects. At step 120, the program guide provides a program listings display such as a flip or browse display on a screen (e.g., the user's television screen) in user television equipment 44. After a suitable time period (e.g., after 5 minutes if display
30 114 is a browse display or after 5 seconds if display 114 is a flip display), the program guide removes the program listings display (e.g., the flip or browse

- 20 -

display) from the screen using a special effect at step 122. The program guide may use a default special effect at step 122 or may use a special effect selected by the user at step 118.

5 Another browse and flip display arrangement containing advertising is shown in FIG. 12. Screen 124 contains a reduced-size video window 126 containing video for the channel to which the user (i.e., set-top box 48) is tuned. Screen 124 also contains
10 advertisements 128a, 128b, and 128c. Logos 130 and a region 132 containing the current time and current channel may also be contained in screen 124. Program listing 134 may be provided in screen 124 adjacent to reduced-size video window 126. Program listing 134 may
15 contain channel information 136, title information 138, and icons 140 (e.g., for showing ratings information, close-captioning status, etc.).

Like the browse and flip program listings display regions shown in FIGS. 6-9, program listings
20 display region 142 contains a single program listing (for the program "ER" in the example of FIG. 12) and may contain one or more advertisements if desired. However, because video window 126 is reduced in size (i.e., it occupies less than a full screen), it is not
25 necessary to overlay program listings display region 142 on top of the current channel.

Program listings display region 142 may operate in either browse mode or flip mode. The user may invoke the browse mode by activating a cursor key
30 or other suitable key. Further use of the cursor key in browse mode directs the program guide to change the program listing 134 to a new channel without changing

- 21 -

the channel for video window 126. If desired, left and right cursor keys may be used to browse program listings for different times. Activating "OK" key 64 directs the program guide to tune the channel for video window 124 to the channel of the current program listing. The user may invoke the flip mode by activating a channel up or down key or other suitable key. Further use of the channel up or down key in the flip mode directs the program guide to change the channel for both video window 126 and program listing 134 simultaneously. If desired, advertisement 128c may be omitted to provide more space for listing 134 and video window 126. The user may navigate to panel advertisements such as advertisements 128a and 128b using special (e.g., dedicated or numeric) remote control buttons or by using the left and right cursor keys (in which case the left and right cursor keys are not used for browsing program listings at different times).

As shown in FIG. 13, advertisements such as the advertisements in the program listings display regions shown in FIGS. 6-9 and 12 may contain video text and graphics. More than one advertisement may be displayed in each program listings display if desired.

Advertisements such as those shown in FIGS. 6-9 and 12 may be selectable. The user may navigate to a selectable ad using any suitable arrangement, such as using special remote control navigation keys. Once the user has navigated to a given advertisement, the user may select that advertisement using an "OK" key. Any other suitable technique for selecting an advertisement may be used if desired.

- 22 -

Steps involved in using selectable advertisements are shown in FIG. 14. At step 144, the program guide provides a selectable advertisement in a flip or browse display. At step 146, the user selects the advertisement. At step 148, the program guide takes a suitable action. If the advertisement is for a television program that is currently being aired, the program guide may provide the user with an opportunity to tune to that program. If the advertisement is for a future television program, the program guide may provide the user with an opportunity to set a reminder for that program. If desired, the program guide may provide the user with an opportunity to have the program recorded. Pay-per-view and video-on-demand (VOD) programs may be ordered. When an advertisement is for a particular television channel, selecting the advertisement may direct the program guide to provide the user with a list of programs for that channel. Additional information (e.g., on a program, product, or service) may be requested by selecting certain advertisements. Brochure and literature requests and other such inquiries for additional information may be handled by the program guide at step 148 if the user selects an advertisement involving such an inquiry. Selectable advertisements may also be provided that promote goods and services. If the user selects such an advertisement at step 146, the program guide system may process an order for the goods or services being advertised at step 148.

The foregoing is merely illustrative of the principles of this invention and various modifications

- 23 -

can be made by those skilled in the art without
departing from the scope and spirit of the invention.

- 24 -

What is Claimed is:

1. A system in which an interactive television program guide is implemented on user television equipment comprising:

means for providing a program guide screen with the interactive television program guide that contains video for a given channel; and

means for providing a program listings display region in the program guide screen that contains a program listing for a single channel and an advertisement.

2. The system defined in claim 1 wherein the means for providing the advertisement further comprises means for providing an advertisement that contains text.

3. The system defined in claim 1 wherein the means for providing the advertisement further comprises means for providing an advertisement that contains graphics.

4. The system defined in claim 1 wherein the means for providing the advertisement further comprises means for providing an advertisement that contains video.

5. The system defined in claim 1 further comprising a set-top box on which the interactive television program guide is implemented.

- 25 -

6. The system defined in claim 1 wherein the advertisement contains video, the system further comprising:

a television distribution facility for distributing television programming to the user television equipment; and

a video server located in the television distribution facility for providing the advertisement to the user television equipment.

7. The system defined in claim 1 wherein the advertisement contains video, the system further comprising:

a television distribution facility for distributing television programming to the user television equipment;

a plurality of network nodes for use in providing the television programming to the user television equipment; and

at least one video server located at one of the network nodes for providing the advertisement containing video to the user television equipment.

8. The system defined in claim 1 wherein the means for providing the advertisement further comprises means for providing a selectable advertisement.

9. The system defined in claim 1 further comprising means for cycling the content of the advertisement.

- 26 -

10. The system defined in claim 1 further comprising:

means for cycling the content of the advertisement; and

means for providing a fade between advertisements as they are cycled.

11. The system defined in claim 1 wherein the program listings display region is a browse display, the system further comprising means for providing the browse display in the program guide screen.

12. The system defined in claim 1 wherein the program listings display region is a browse display, the system further comprising means for providing the browse display in the program guide screen overlaid on the video for the given channel.

13. The system defined in claim 1 wherein the program listings display region containing the program listing and the advertisement is a browse display containing the program listing and the advertisement, the system further comprising:

means for overlaying the browse display on the video for the given channel; and

means for providing a highlight; and

means for navigating the highlight from the program listing to the advertisement.

14. The system defined in claim 1 wherein the program listings display region containing the

- 27 -

program listing and the advertisement is a browse display containing the program listing and the advertisement, the system further comprising:

means for overlaying the browse display on the video for the given channel; and

means for providing a highlight;

means for navigating the highlight from the program listing to the advertisement; and

means for changing the program listing in the browse display when the highlight is on the advertisement.

15. The system defined in claim 1 wherein the program listings display region is a flip display, the system further comprising means for providing the flip display in the program guide screen overlaid on the video for the given channel.

16. The system defined in claim 1 further comprising means for providing the video contained in the program guide screen in a reduced-size video window.

17. The system defined in claim 1 further comprising means for providing the video window contained in the program guide screen in a reduced-size video window, wherein the program listings display region is a browse display.

18. The system defined in claim 1 further comprising means for providing the video window contained in the program guide screen in a reduced-size

- 28 -

video window, wherein the program listings display region is a flip display.

19. The system defined in claim 1 further comprising means for removing the program listings display region using special effects.

20. The system defined in claim 1 further comprising means for removing the program listings display region using a wipe.

21. The system defined in claim 1 further comprising means for providing the program listings display region with more than one advertisement.

22. The system defined in claim 1 further comprising means for providing a program listing in the program listings display region that is for a different channel than the given channel.

23. The system defined in claim 1 wherein the advertisement is a selectable advertisement promoting a program, the system further comprising means for recording the program when the advertisement is selected.

24. The system defined in claim 1 wherein the advertisement is a selectable advertisement for a product, the system further comprising means for ordering the product when the advertisement is selected.

- 29 -

25. A method for using an interactive television program guide implemented on user television equipment comprising the steps of:

providing a program guide screen with the interactive television program guide that contains video for a given channel; and

providing a program listings display region in the program guide screen that contains a program listing for a single channel and an advertisement.

26. The method defined in claim 25 wherein the step of providing the advertisement further comprises the step of providing an advertisement that contains text.

27. The method defined in claim 25 wherein the step of providing the advertisement further comprises the step of providing an advertisement that contains graphics.

28. The method defined in claim 25 wherein the step of providing the advertisement further comprises the step of providing an advertisement that contains video.

29. The method defined in claim 25 further comprising the step of implementing the interactive television program guide on a set-top box.

- 30 -

30. The method defined in claim 25 wherein the advertisement contains video, the method further comprising the steps of:

distributing television programming to the user television equipment with a television distribution facility; and

providing the advertisement containing video to the user television equipment using a video server located in the television distribution facility.

31. The method defined in claim 25 wherein the advertisement contains video, the method further comprising the steps of:

distributing television programming to the user television equipment with a television distribution facility;

providing the television programming to the user television equipment using a plurality of network nodes; and

providing the advertisement containing video to the user television equipment using a video server located at one of the network nodes.

32. The method defined in claim 25 wherein the step of providing the advertisement further comprises the step of providing a selectable advertisement.

33. The method defined in claim 25 further comprising the step of cycling the content of the advertisement.

- 31 -

34. The method defined in claim 25 further comprising the steps of:

cycling the content of the advertisement; and

providing a fade between advertisements as they are cycled.

35. The method defined in claim 25 wherein the program listings display region is a browse display, the method further comprising the step of providing the browse display in the program guide screen.

36. The method defined in claim 25 wherein the program listings display region is a browse display, the method further comprising the step of providing the browse display in the program guide screen overlaid on the video for the given channel.

37. The method defined in claim 25 wherein the program listings display region containing the program listing and the advertisement is a browse display containing the program listing and the advertisement, the method further comprising the steps of:

overlaying the browse display on the video for the given channel; and

providing a highlight; and

providing an opportunity for a user to navigate the highlight from the program listing to the advertisement.

- 32 -

38. The method defined in claim 25 wherein the program listings display region containing the program listing and the advertisement is a browse display containing the program listing and the advertisement, the method further comprising the steps of:

overlaying the browse display on the video for the given channel; and

providing a highlight;

providing an opportunity for a user to navigate the highlight from the program listing to the advertisement; and

providing the user with an opportunity to change the program listing in the browse display when the highlight is on the advertisement.

39. The method defined in claim 25 wherein the program listings display region is a flip display, the method further comprising the step of providing the flip display in the program guide screen overlaid on the video for the given channel.

40. The method defined in claim 25 further comprising the step of providing the video contained in the program guide screen in a reduced-size video window.

41. The method defined in claim 25 further comprising the step of providing the video contained in the program guide screen in a reduced-size video, wherein the program listings display region is a browse display.

- 33 -

42. The method defined in claim 25 further comprising the step of providing the video contained in the program guide screen in a reduced-size video, wherein the program listings display region is a flip display.

43. The method defined in claim 25 further comprising the step of removing the program listings display region using special effects.

44. The method defined in claim 25 further comprising the step of removing the program listings display region using a wipe.

45. The method defined in claim 25 further comprising the step of providing the program listings display region with more than one advertisement.

46. The method defined in claim 25 further comprising the step of providing a program listing in the program listings display region that is for a different channel than the given channel.

47. The method defined in claim 25 wherein the advertisement is a selectable advertisement promoting a program, the method further comprising the step of recording the program when the advertisement is selected.

48. The method defined in claim 25 wherein the advertisement is a selectable advertisement for a product, the method further comprising the step of

- 34 -

ordering the product when the advertisement is selected.

49. A system in which an interactive television program guide is implemented on user television equipment comprising:

means for providing a program guide screen containing a program listings display region; and

means for removing the program listings display region using a special effect.

50. The system defined in claim 49 wherein the means for removing the program listings display region comprises means for removing the program listings display region using a wipe.

51. The system defined in claim 49 further comprising means for providing the user with an opportunity to select a desired special effect for use in removing the program listings display region.

52. A method for using an interactive television program guide implemented on user television equipment comprising the steps of:

providing a program guide screen containing a program listings display region; and
removing the program listings display region using a special effect.

53. The method defined in claim 52 wherein the step of removing the program listings display

- 35 -

region comprises the step of removing the program listings display region using a wipe.

54. The method defined in claim 52 further comprising the step of providing the user with an opportunity to select a desired special effect for use in removing the program listings display region.

55. A system in which an interactive television program guide is implemented on user television equipment comprising:

means for providing a program guide screen with the interactive television program guide that contains a reduced-size video window for a given channel; and

means for providing a program listings display region in the program guide screen that contains a program listing for a single channel.

56. The system defined in claim 55 wherein the means for providing the program listings display region further comprises means for providing a browse display.

57. The system defined in claim 55 wherein the means for providing the program listings display region further comprises means for providing a flip display.

58. A method for using an interactive television program guide implemented on user television equipment comprising the steps of:

- 36 -

providing a program guide screen with the interactive television program guide that contains a reduced-size video window for a given channel; and

providing a program listings display region in the program guide screen that contains a program listing for a single channel.

59. The method defined in claim 58 wherein the step of providing the program listings display region further comprises the step of providing a browse display.

60. The method defined in claim 58 wherein the step of providing the program listings display region further comprises the step of providing a flip display.

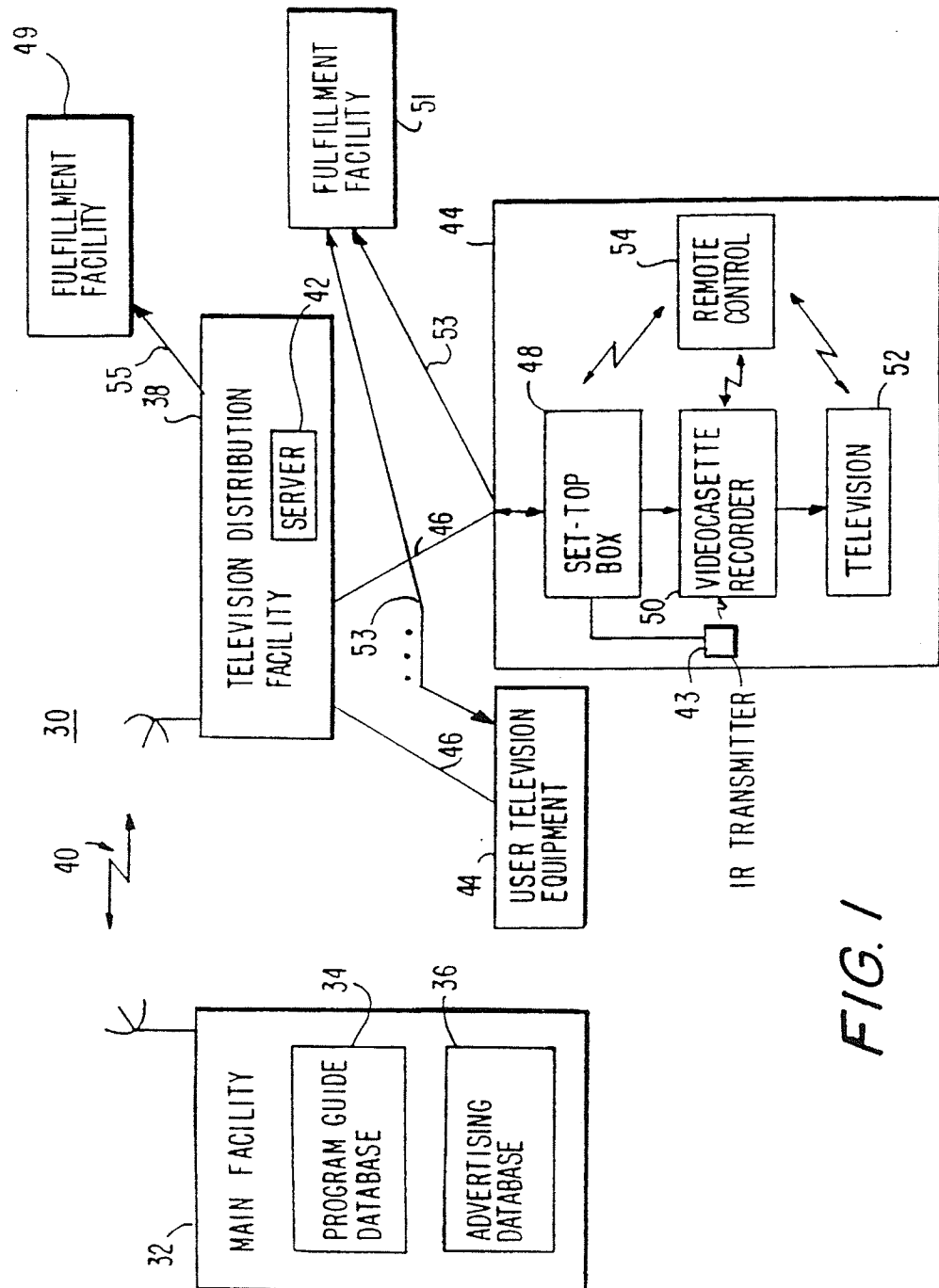


FIG. 1

2/14

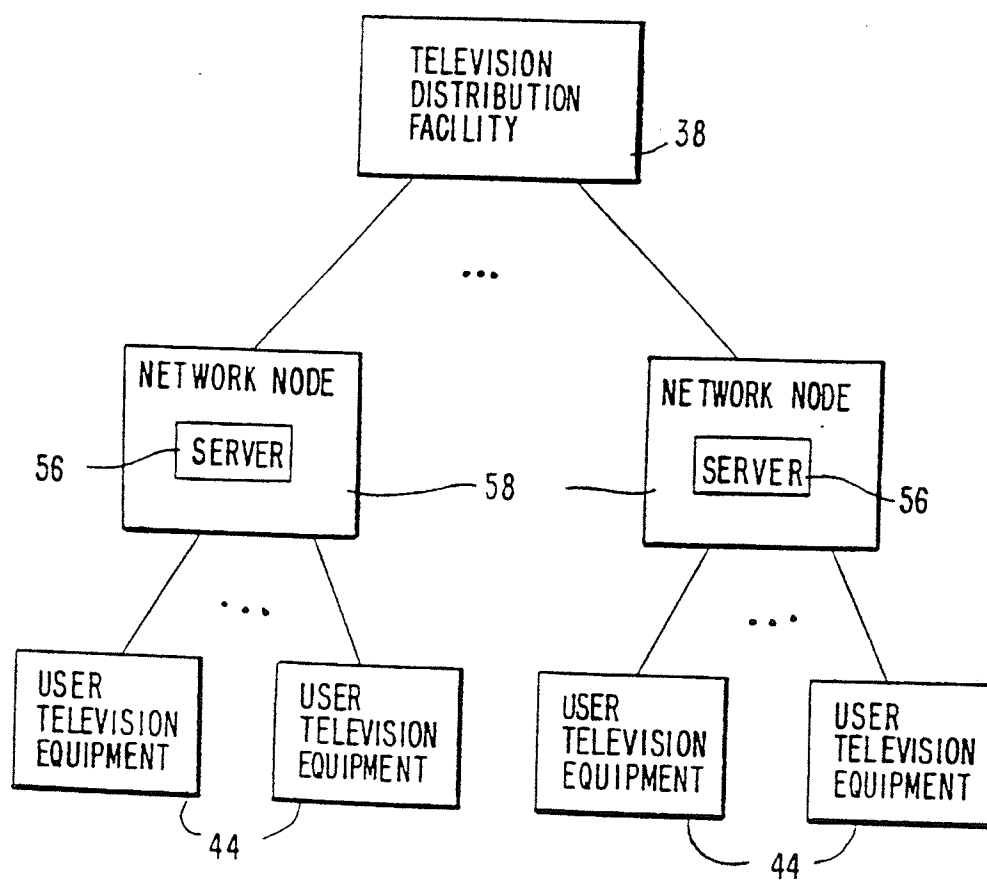
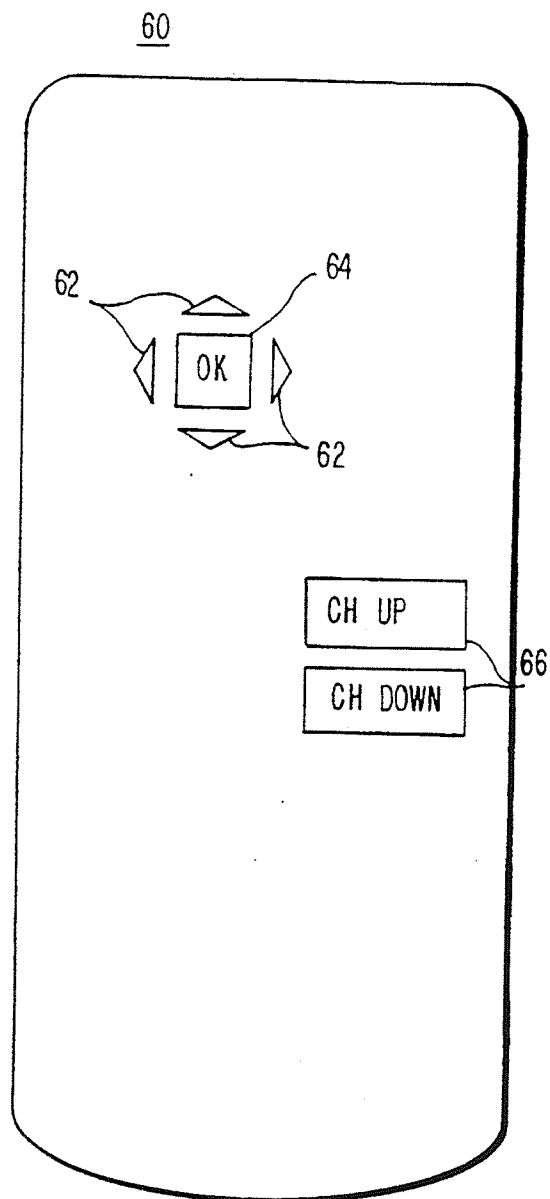


FIG. 2

3 / 14

FIG. 3



4 / 14

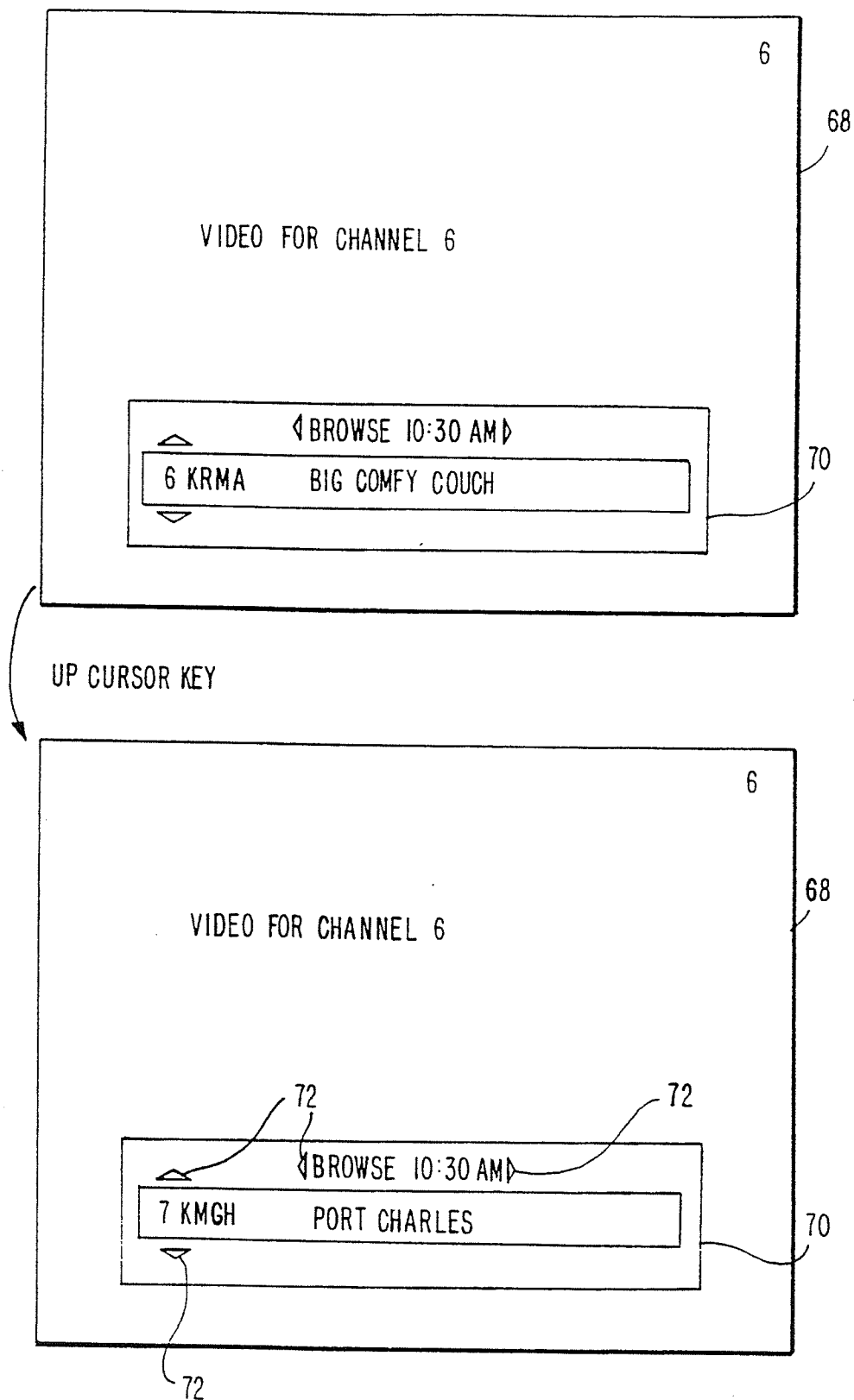


FIG. 4
PRIOR ART

5/14

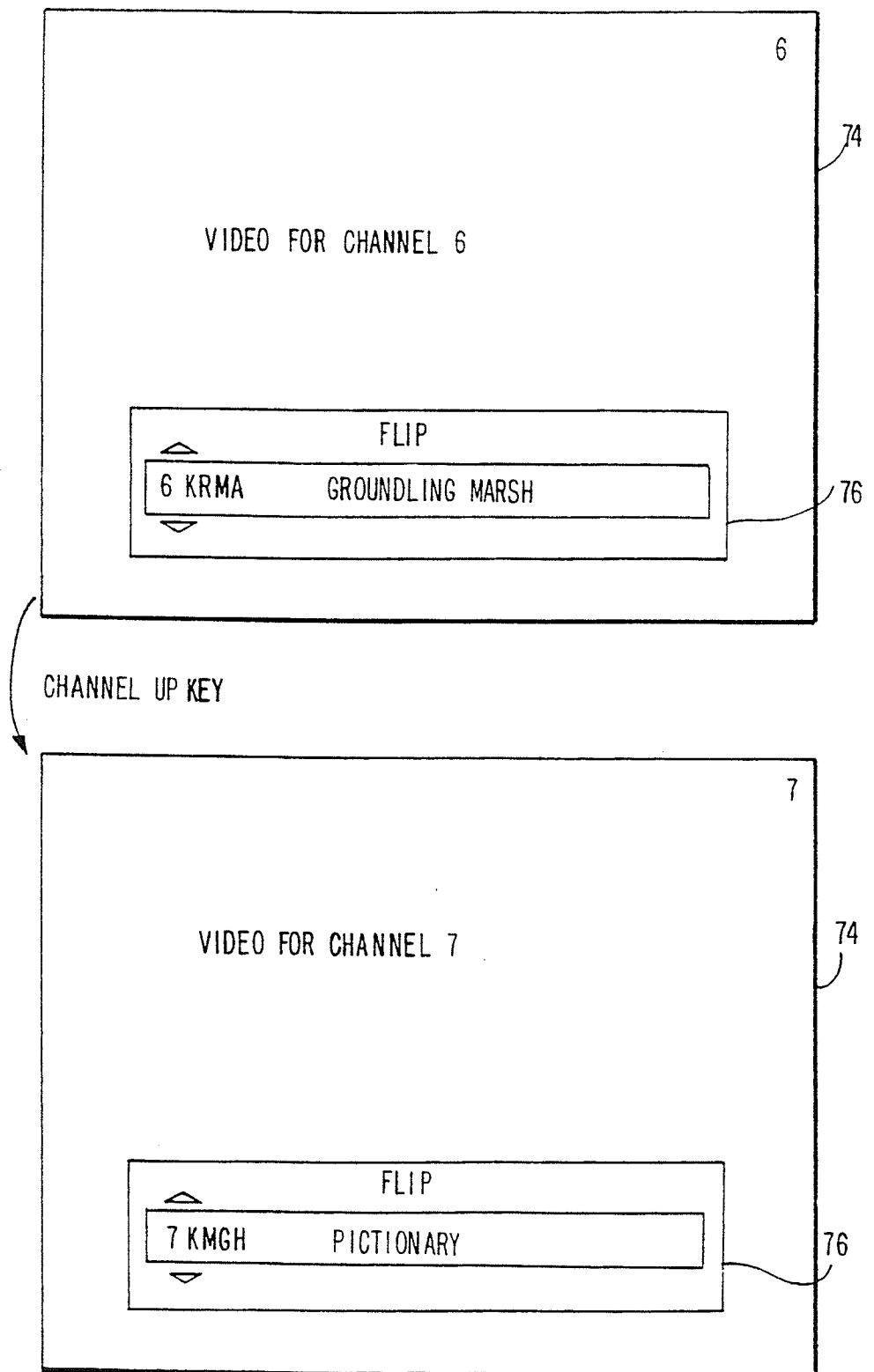


FIG. 5
PRIOR ART

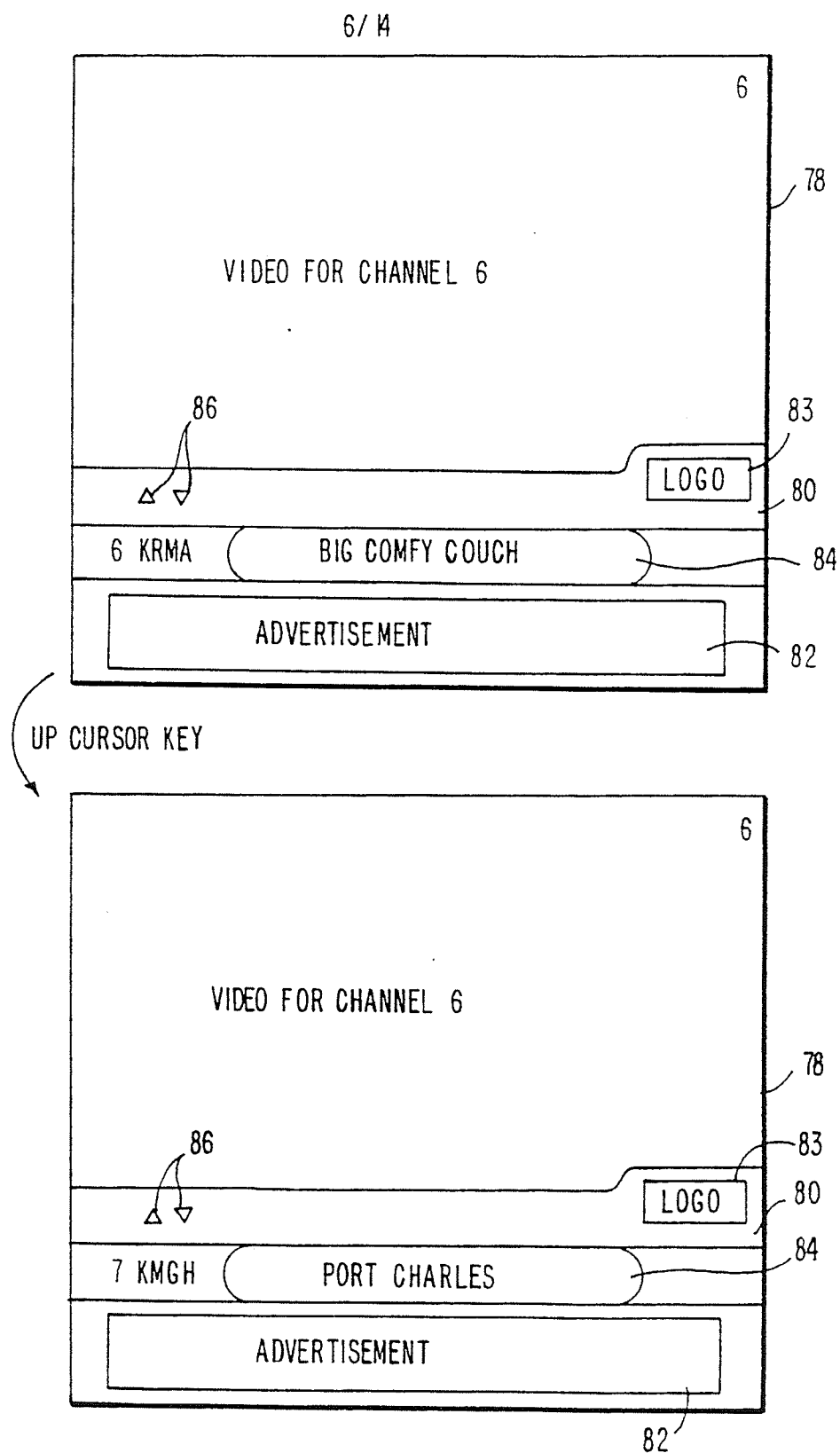


FIG. 6

7/14

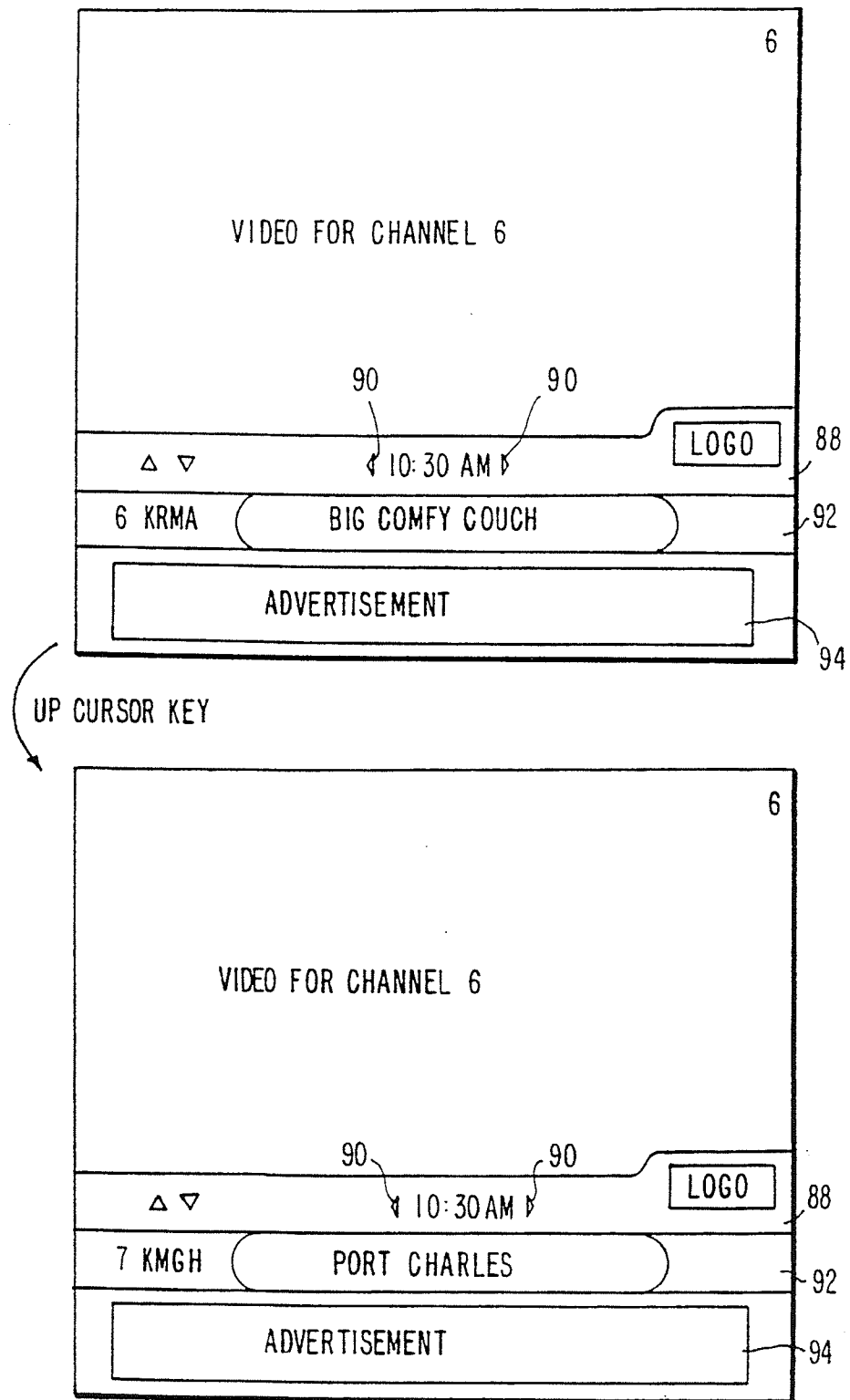
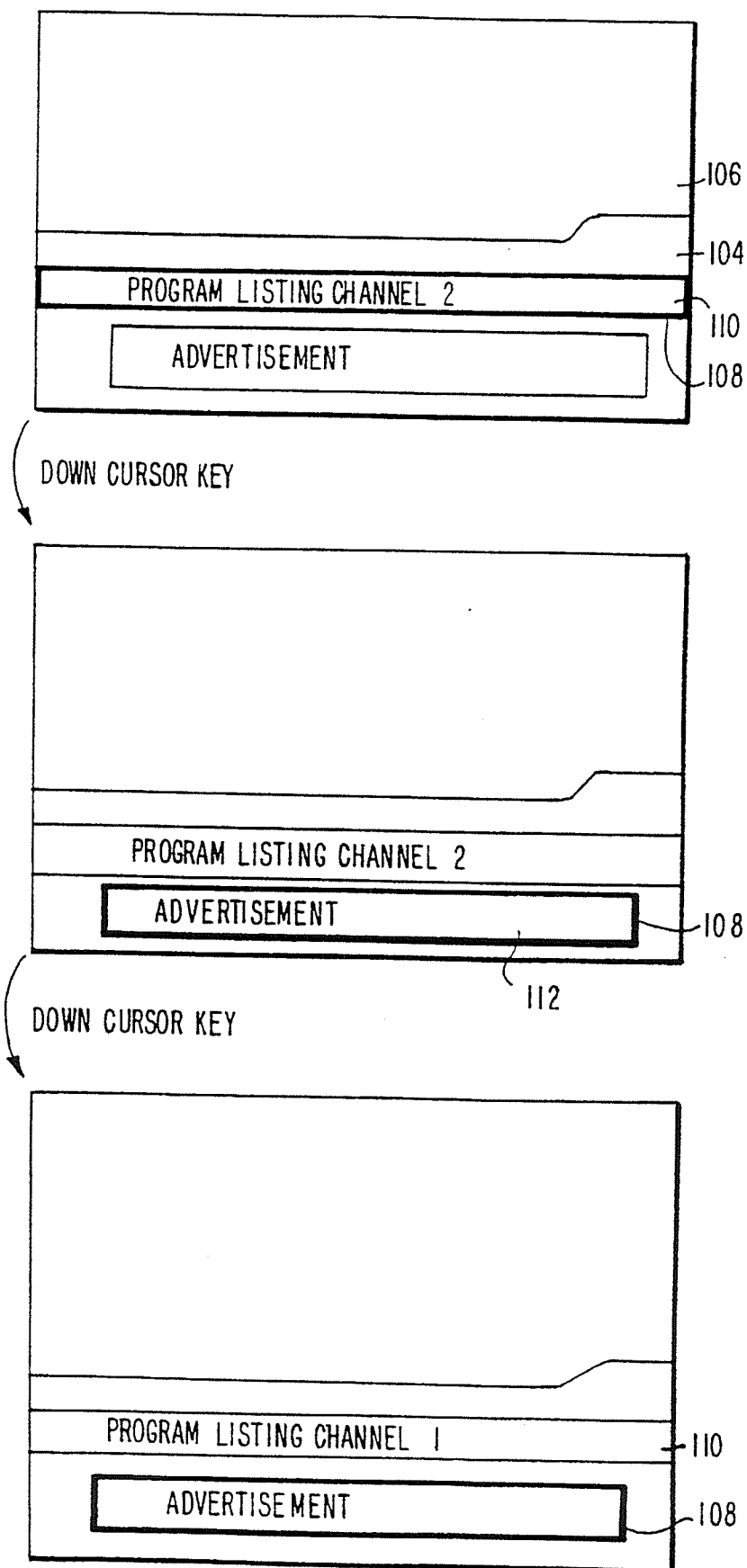


FIG. 7

8/14

FIG. 8



9/14

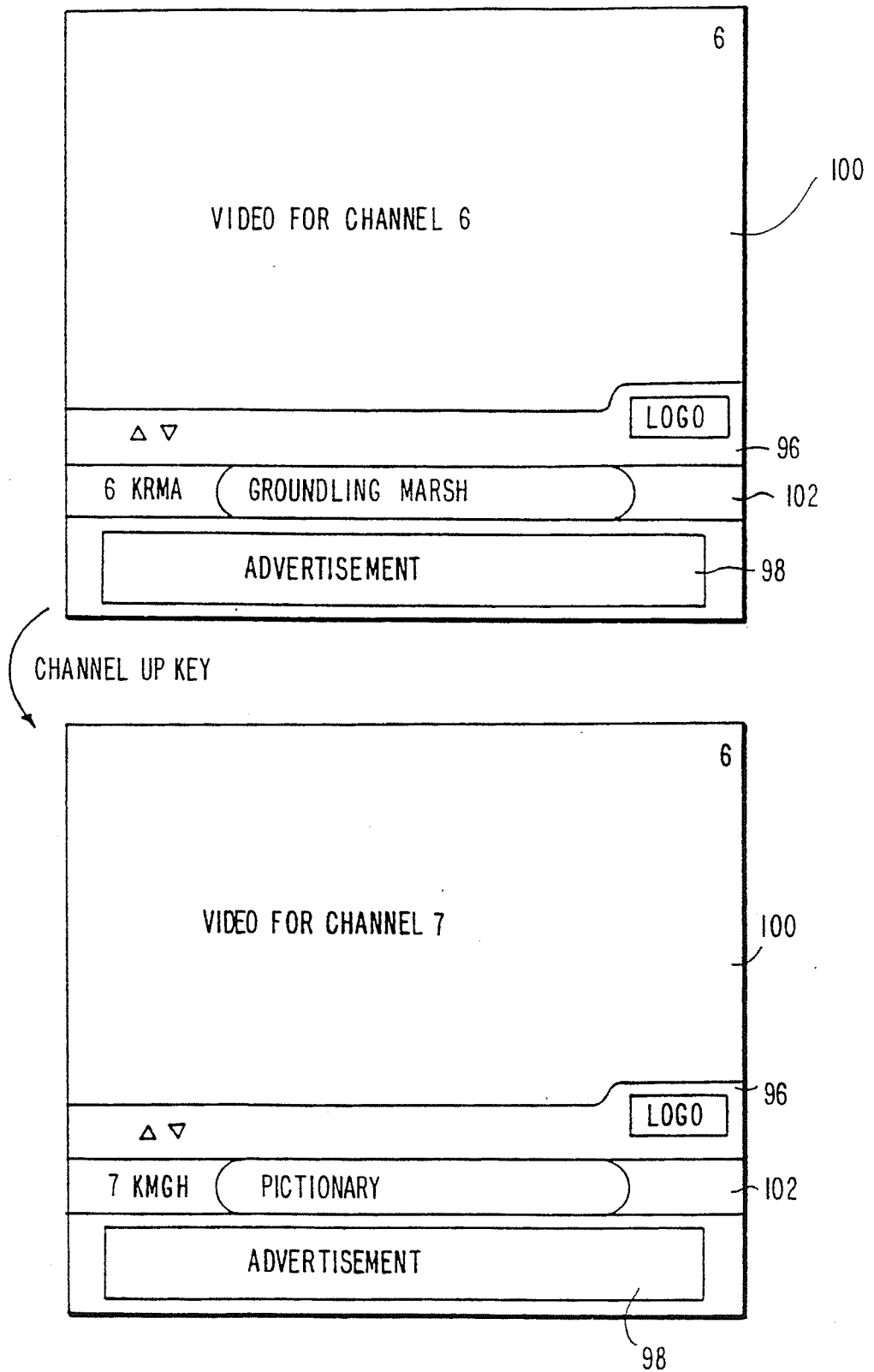


FIG. 9

10/ 14

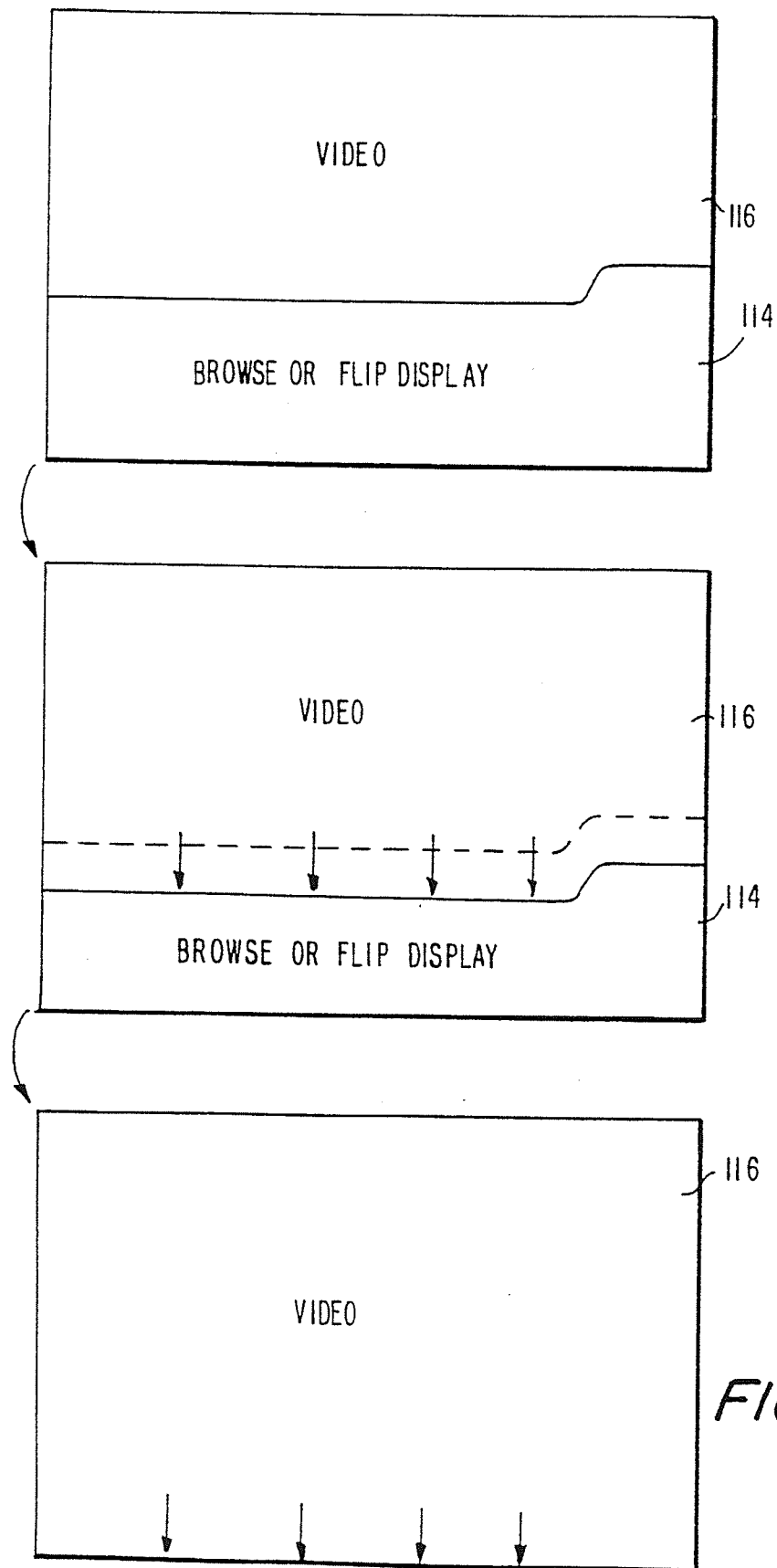
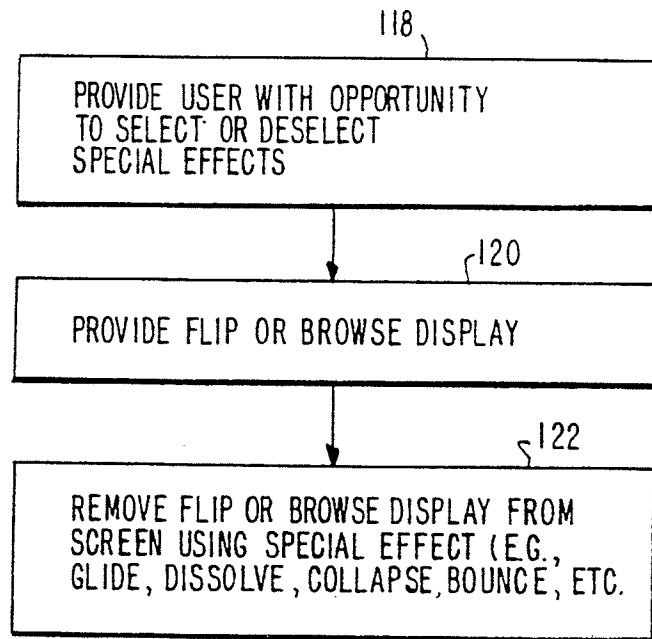


FIG. 10

11/14

*FIG. 11*

12/14

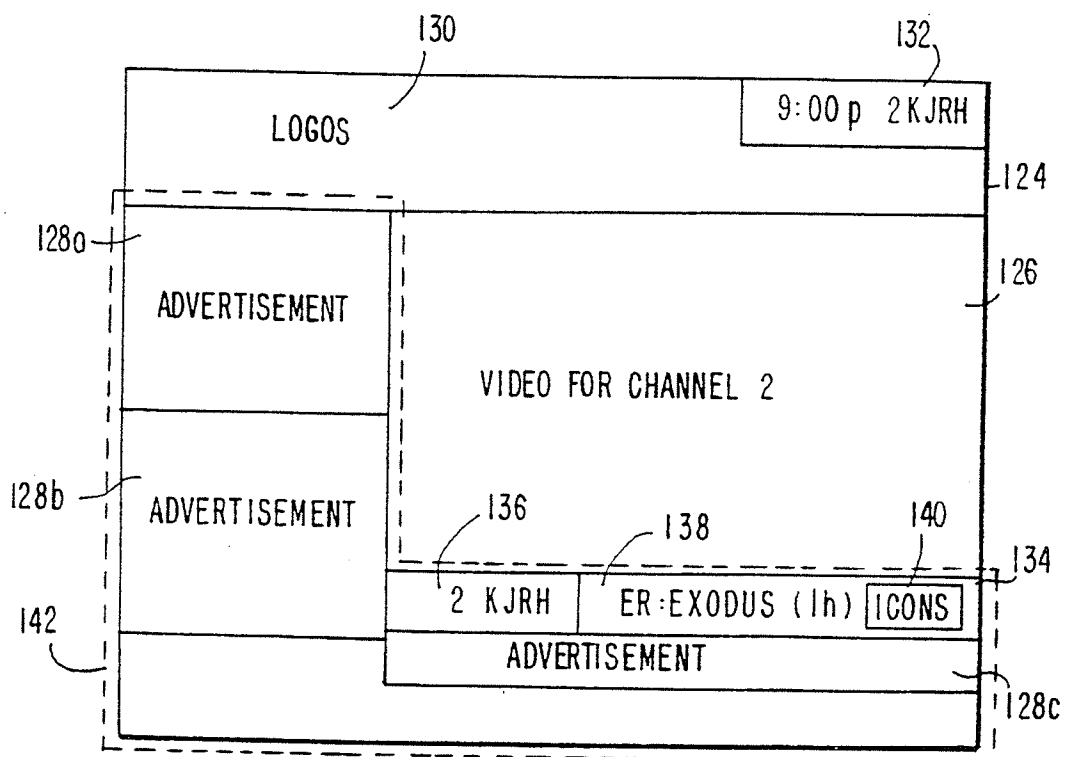


FIG. 12

13/14

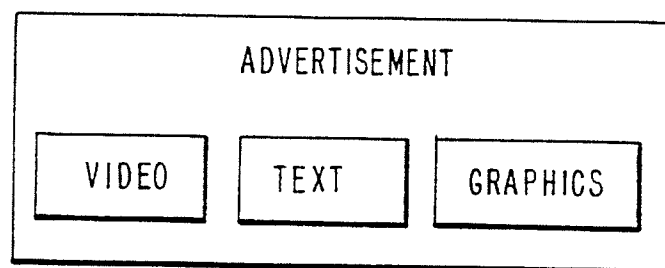


FIG. 13

14/ 14

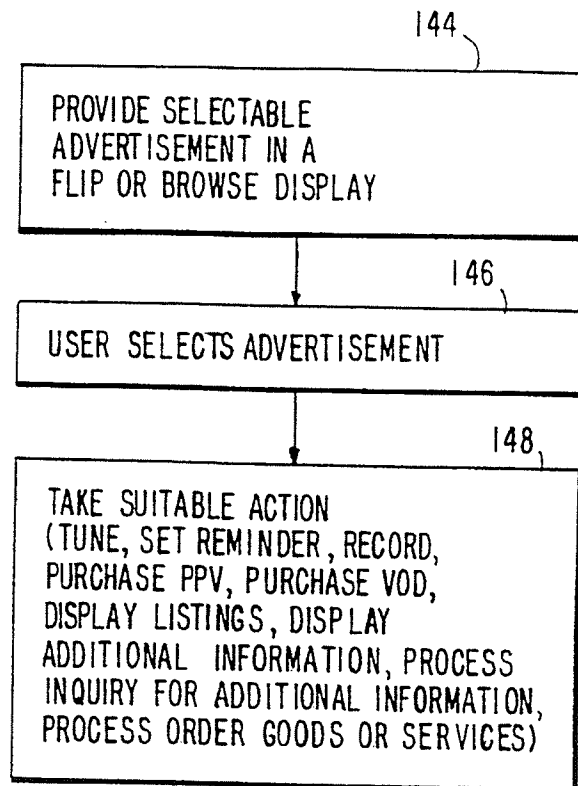


FIG. 14

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/08842

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04N5/445

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 49242 A (HUNWICH KEITH ;SCHEIN STEVEN (US); ALBA THERESA (US); FOLKER DAVID) 24 December 1997 (1997-12-24)	1,2,5, 25,26, 29,55
Y	column 17, line 16 - column 20, line 21	4,6,7, 11-13, 15,28, 30,31, 35-37, 39,56-60
Y	WO 97 07656 A (BACKWEB) 6 March 1997 (1997-03-06) page 6, line 35 - page 21	4,28
Y	WO 98 06219 A (STARSIGHT TELECAST INC) 12 February 1998 (1998-02-12) page 10, line 35 - page 11, line 2	6,7,30, 31
	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

7 July 1999

Date of mailing of the international search report

16/07/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Materne, A

INTERNATIONAL SEARCH REPORT

Int. .tional Application No

PCT/US 99/08842

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 585 866 A (DARATA PAUL ET AL) 17 December 1996 (1996-12-17)	1
Y	column 7, line 48 - column 36, line 48	11-13, 15-18, 35-37, 39-42, 56,57, 59,60
Y	<div style="text-align: center;">---</div> WO 98 17064 A (WESTBERG THOMAS E ;KWOH DANIEL S (US); LEUNG ELSIE Y (US); MANKOVI) 23 April 1998 (1998-04-23) page 3, line 30 - page 8, line 6 <div style="text-align: center;">-----</div>	16-18, 40-42,58

INTERNATIONAL SEARCH REPORT

Information on patent family members

Int. l. Application No

PCT/US 99/08842

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9749242 A	24-12-1997	AU 3223097 A	07-01-1998
WO 9707656 A	06-03-1997	US 5913040 A	15-06-1999
		AU 6751396 A	19-03-1997
		CA 2229927 A	06-03-1997
		EP 0886825 A	30-12-1998
WO 9806219 A	12-02-1998	AU 3908297 A	25-02-1998
		EP 0919097 A	02-06-1999
US 5585866 A	17-12-1996	US 5781246 A	14-07-1998
		AU 705839 B	03-06-1999
		AU 6092996 A	30-12-1996
		CA 2223018 A	19-12-1996
		EP 0830787 A	25-03-1998
		PL 323830 A	27-04-1998
		WO 9641477 A	19-12-1996
		US 5589892 A	31-12-1996
		US 5822123 A	13-10-1998
WO 9817064 A	23-04-1998	AU 4823197 A	11-05-1998